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PHYSICAL EPHEMERIS OF HALLEY'S COMET.

TABLE I.

Date, 1910.	T_1	T_2	T_3	T_4	P_r	A
Berlin Time.	P.S.T.	P.S.T.	P.S.T.	P.S.T.		
Jan. 5.I	7 ^h 23 ^m	5 ^h 2 ^m	6 ^h 23 ^m	6 ^h 1 ^m	69° 32'	27° 48'
10.I	7 23	5 6	6 20	6 8	69 8	30 32
15.I	7 21	5 11	6 19	6 13	68 41	32 20
20.I	7 19	5 16	6 19	6 18	68 11	33 36
25.I	7 17	5 21	6 16	6 22	67 39	33 56
30.I	7 13	5 27	6 13	6 27	67 4	34 28
Feb. 4.I	7 10	5 32	6 10	6 33	66 24	34 58
9.I	7 4	5 38	6 5	6 37	65 39	33 0
14.I	6 58	5 43	6 0	6 42	64 35	32 18
19.I	6 53	5 49	5 55	6 47	63 38	30 44
24.I	6 46	5 54	5 49	6 52	62 13	28 38
Mar. 1.I	6 39	5 59	5 42	6 56	60 15	26 6
6.I	6 32	6 4	5 35	7 1	57 16	22 56
11.I	6 25	6 8	5 28	7 6	53 16	19 20
16.I	6 17	6 13	5 21	7 11	45 49	15 6
21.I	6 10	6 18	5 13	7 15	29 46	10 32
26.I	6 4	6 22	5 6	7 21	9 48	7 50
31.I	5 55	6 26	4 58	7 25	301 11	11 20
Apr. 5.I	5 47	6 31	4 50	7 31	279 56	18 56

The columns give in order (1) the date, (2) time of sunrise at Mount Hamilton, (3) time of sunset at Mount Hamilton, (4) time in the morning when Sun is 12° below horizon, (5) time in evening when SUN is 12° below horizon, (6) position angle of comet's tail, and (7) angle at comet between Earth and Sun. The second and third columns were taken by interpolation from the table given in *Publications of the Lick Observatory*, Vol. I. The sixth and seventh were computed from the ephemeris published in *The Observatory*, December, 1909, which was given in Berlin time for every fifth day. Perihelion passage was assumed to be 1910 April, 19.67.

TABLE II.

Greenwich Noon. 1910	$\alpha_\odot - \alpha_c$	P_r	Greenwich Noon. 1910	$\alpha_\odot - \alpha_c$	P_r
April 4	+ 0 ^h 45 ^m 18 ^s	282° 3'	Apr. 24	+ 2 ^h 14 ^m 25 ^s	258° 46'
8	1 3 50	272 29	28	2 28 57	257 18
12	1 22 15	266 54	May 2	2 40 30	256 11
16	1 40 34	263 19	6	2 47 18	255 30
20	1 58 5	260 42	10	2 44 20	255 13

Greenwich Noon.	$\alpha_{\odot} - \alpha_c$	P_r	Greenwich Noon.	$\alpha_{\odot} - \alpha_c$	P_r
1910			1910		
May 11	+ 2 ^h 40 ^m 10 ^s	255° 27'	May 21	— 2 ^h 20 ^m 33 ^s	99° 51'
12	2 35 12	255 41	22	3 9 43	103 37
13	2 27 27	256 23	23	3 47 26	106 15
14	2 15 48	256 41	24	4 16 57	107 59
15	2 0 44	257 40	25	4 34 42	109 7
16	1 39 36	259 9	26	4 49 25	109 53
17	1 10 22	261 23	27	4 59 38	110 26
18	+ 0 30 5	264 19	28	5 7 3	110 36
19	— 0 21 49	90 3	29	5 12 11	111 13
20	1 18 2	95 29	30	— 5 15 42	111 29

The above calculations are based on an ephemeris for Halley's Comet by Dr. SMART, which was published in *The Observatory*, November, 1909. It was assumed that the time of perihelion passage was 1910 April, 19.65.

MOUNT HAMILTON, CAL.

CHAS. P. OLIVIER.

NOTE ON THE RADIAL VELOCITY OF *POLARIS*.

The radial velocity of the binary system of the triple system of *Polaris* decreased slowly from — 11.2^{km} per second at 1899.8 to about — 17.3 at 1908.7. The velocity observed with the Mills spectrograph at 1909.9 was approximately — 15.3. The minimum has, therefore, been passed, and the radial velocity of the center of mass of the binary system appears to be increasing rapidly. Radial velocity observations of the bright component of the *Polaris* system, made within the next few months, promise to have unusual weight in the determination of the period of the third member of the system around the center of mass of itself and the binary system.

W. W. CAMPBELL.

December 31, 1909.

NOTE CONCERNING THE RADIAL VELOCITY OF *PROCYON*.

We have radial velocities of *Procyon*, as determined with the Mills spectrograph, extending over thirteen years. This is one-third the revolution period deduced by Dr. AUWERS. As the observed radial velocities do not appear to have varied appreciably in a manner to accord with a period of forty